

SECRET

14 December 1960

MEMORANDUM FOR: CHIEF/TSD/CB

SUBJECT : Power Supplies

1. In connection with a fast developing operational requirement for an aircraft homing beacon there exists a need for a power supply having the following characteristics:

- a. Operation over a temperature range from -40° to +70°C; altitude from sea level to at least 10,000 feet and if possible as high as 20,000 feet.
- b. Sufficiently rugged in design to withstand rough handling and normal transportation requirements, including air, truck and rail.
- c. Simplicity of operation is to be a primary design goal, particularly with respect to starting in a low temperature, high altitude, damp environment. There should be no necessity for external or supplementary parts to start the device.
- d. While minimum size is not an overriding consideration the package ought to be relatively small, i.e., not much larger than a cigar box and light enough to be easily carried.
- e. Fuel should be from a class which is easily stored and/or readily available in remote and underdeveloped areas of the world.
- f. Power requirements at this time call for a 15 volt supply capable of providing up to 20 watts of power for at least two hours.

2. This power supply is to be used in connection with a drop zone marking electronic beacon presently being designed at [] and now designated the HRM-1 beacon. Two prototypes will be delivered in early February with a mercury power pack. Following a field test program pre-production prototypes will be fabricated and if successful [] quantity production initiated during the late spring of 1961. It would seem desirable to have one or possibly two prototype power supplies available for field test sometime prior to initiation of the beacon production contract.

50X1

50X1

SECRET

- 2 -

3. Questions concerning this memorandum should be addressed
to the undersigned on extension

50X1

TSD/Systems Branch

50X1

Distribution:

Orig & 1 - Addressee

50X1

- > 1 - P-
1 - CB/liaison
~~1 - [REDACTED]~~
1 - Chrono

SECRET